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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,221	09/11/2003	Roger Nicholas Place	A35977-PCT-USA-A	7705
21003	7590	09/23/2004	EXAMINER	
BAKER & BOTTS 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			SPITZER, ROBERT H	
			ART UNIT	PAPER NUMBER
			1724	
DATE MAILED: 09/23/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/660,221

Applicant(s)

PLACE ET AL.

Examiner

Robert H. Spitzer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2004 and 30 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 27-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 31,32 and 37-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 31 is indefinite because there is no direct antecedent basis for the recitation of "the absorber", and because it recites "a plurality of monoliths" without any correlation/distinction to "a monolithic porous carbon" recited in claim 27. Claims 37 and 38 are indefinite because there is no direct antecedent basis for the recitation of "the absorbed compounds". Claim 39 depends from indefinite claim 37 and is indefinite for that reason. Claim 40 is indefinite because there is no direct antecedent basis for the recitations of "the absorber" and "the absorbed compounds".
3. Claims 27-29 and 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gadkaree et al. (5,750,026) in view of EPO reference number 0,254,551. Gadkaree et al. ('026) clearly show a porous carbon monolith structure formed from a phenolic resin for the adsorption and desorption of volatile organic components (VOCs), which desorption is by electric heating of the carbon monolith, where the monolith has a resistivity of 0.10 to 25 ohm.cm, a wall thickness of 0.1 to 1.3 mm, and an open porosity of 0.1 to 70 vol. %. The claims differ from that disclosure of Gadkaree et al. ('026) in the specific method of making the monolithic porous carbon "by partially curing a phenolic resin to a solid, comminuting the partially cured resin,

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sintering the comminuted resin so as to produce a form-stable sintered product and carbonizing the form-stable sintered product". EPO reference number 0,254,551 shows that identical method of making a porous monolithic carbon article. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to make the porous monolithic carbon used in the device and process of Gadkaree et al. ('026) "by partially curing a phenolic resin to a solid, comminuting the partially cured resin, sintering the comminuted resin so as to produce a form-stable sintered product and carbonizing the form-stable sintered product", in place of the coating method, in view of the showing of EPO reference number 0,254,551, as the formed porous monolith made by either method has overlapping properties with respect to resistivity, wall thickness and open porosity, and would thus be expected to be useable in place of each other.

4. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gadkaree et al. (5,750,026) in view of EPO reference number 0,254,551, as applied in the paragraph directly above, further in view of Park et al. (5,914,294). The claim differs from the process of modified Gadkaree et al. ('026) in specifying that the surface area of the carbon monolith is "at least 700 m<sup>2</sup>/g". Park et al. ('294) show that a carbon adsorber can have a surface area of from about "600 to about 2000 m<sup>2</sup>/g " (col. 5, lines 5-12), with the surface area and other physical properties of the carbon varying and depending upon the specific application of the carbon. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to utilize a carbon with a surface area of at least 700 m<sup>2</sup>/g in the process of modified Gadkaree et al.

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(026), in view of the showing of Park et al. ('294), because that physical property of carbon is variable and depends upon the application of the carbon.

5. Claims 31-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gadkaree et al. (5,750,026) in view of EPO reference number 0,254,551), as applied in paragraph no. 3 above, further in view of Yokota et al. (5,110,328). The claims differ from the process of modified Gadkaree et al. ('026) in there being a plurality of monoliths connected together to make a single adsorber. Yokota et al. ('328) show that a plurality of monoliths can be connected together in series to form a single adsorber (col. 7, lines 29-40). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to structure the monolith of modified Gadkaree et al. ('026) to be structured of a plurality of series connected monoliths, in view of the showing of Yokota et al. ('328), so that the amount of power needed to operate the monoliths is reduced.

6. Claims 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gadkaree et al. (5,750,026) in view of EPO reference number 0,254,551 and Yokota et al. (5,110,328), as applied in the paragraph directly above, further in view of Mestemaker et al. (5,628,819). The claims differ from the modified process of Gadkaree et al. ('026) in there being a granular bed which follows the monolithic adsorber. Mestemaker et al. ('819) show that granular bed 15i (Fig. 2b) is downstream of the main bed which is positioned before it. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to structure the adsorber of modified Gadkaree et al. ('026) to have a granular bed downstream of the carbon monolith

structure, in view of the showing of Mestemaker et al. ('819), so that any volatile components which pass through the monolith will also be removed before the feed stream passes out of the device.

7. Applicant's arguments filed July 22, 2004 and August 30, 2004 have been fully considered but they are not persuasive. The main argument made by Applicants deals with the added language to the independent claims to specify how the porous carbon monolith is being made. It is agreed that the now recited specific method of making the porous monolithic carbon is not shown by the reference to Gadkaree et al. ('026), which reference uses a coating method of applying the resin to a porous support, which resin is then cured and carbonized to a continuous carbon. The now recited specific method of making the porous monolithic carbon is identically shown in the EPO reference number 0,254,551, which reference is referred to within applicants' specification as being the preferred method of making the porous monolithic carbon. It is the examiner's position that because the formed porous carbon monoliths have overlapping properties, the skilled artisan would have found it obvious to form the carbon in the process and apparatus of Gadkaree et al. ('026) by the method of EPO reference number 0,254,551, with the expectation that the formed carbon would be useable in a process for the removal of volatile organic compounds and be able to be regenerated (desorbed) by heating with an electric current. The secondary references to Park et al. (5,914,294), Yokota et al. (5,110,328) and Mestemaker et al. (5,628,819) have only been argued by applicants for their lack of showing of the specific method of making the carbon monolith and have not been argued for what they have been relied upon in the rejections. Any

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other remarks made by applicants and not specifically commented upon by the examiner, have been considered.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

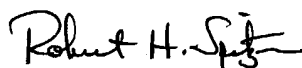
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert H. Spitzer whose telephone number is (571) 272-1167. The examiner can normally be reached on Monday-Thursday from (5:30AM-4:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 20, 2004



Robert H. Spitzer  
Primary Examiner  
Art Unit 1724

September 20, 2004